

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2021/0375272 A1 Madwed et al.

Dec. 2, 2021 (43) **Pub. Date:**

(54) SENTIMENT AWARE VOICE USER INTERFACE

(71) Applicant: Amazon Technologies, Inc., Seattle, WA (US)

(72) Inventors: Isaac Joseph Madwed, Seattle, WA (US); Julia Kennedy Nemer, Seattle, WA (US); Joo-Kyung Kim, Kirkland, WA (US); Nikko Strom, Kirkland, WA (US); Steven Mack Saunders, Bellevue, WA (US); Laura Maggia Panfili, Seattle, WA (US); Anna Caitlin Jentoft, Seattle, WA (US); Sungjin Lee, Woodinville, WA (US); David Thomas, Woodinville, WA (US); Young-Bum Kim, Kirkland, MA (US); Pablo Cesar Ganga, Bellevue, WA (US); Chenlei Guo, Redmond, WA (US); Shuting Tang, Seattle, WA (US);

Zhenyu Yao, Sammamish, WA (US)

(21) Appl. No.: 16/889,420 (22) Filed: Jun. 1, 2020

Publication Classification

(51) Int. Cl. G10L 15/18 (2006.01)G10L 15/22 (2006.01)G10L 15/26 (2006.01)

(52)U.S. Cl. CPC G10L 15/1815 (2013.01); G10L 15/22 (2013.01); G10L 2015/227 (2013.01); G10L 2015/225 (2013.01); G10L 15/265 (2013.01)

ABSTRACT (57)

Described herein is a system for responding to a frustrated user with a response determined based on spoken language understanding (SLU) processing of a user input. The system detects user frustration and responds to a repeated user input by confirming an action to be performed or presenting an alternative action, instead of performing the action responsive to the user input. The system also detects poor audio quality of the captured user input, and responds by requesting the user to repeat the user input. The system processes sentiment data and signal quality data to respond to user inputs.

